NATIONAL INTELLIGENCER.

THE WAR—ITS PROGRESS AND PROSPECTS.

Our attention has been irresistibly attracted by a series of essays, five in number, which have just been published (under the signature of GERMANICUS, and with the caption of "The Cabinet and the Army") in the New York Commercial Advertiser. The subject of these able essays, so far as relates to the present state of the War with Mexico, and the manner of its prosecution to a satisfactory conclusion, are at this moment of deeper interest to the country, and to every class of our fellow-citizens, than any other single subject whatever. Those parts of these essays which relate to the policy and course of the Cabinet in the conduct of this war, are of sufficient interest to have justified the transfer to our columns of the whole substance and letter of them. For the present, however, and not to distract the attention of our readers from the prominent feature—that is, the *military* view of the present state of the war—we omit all the reflections of "Germanicus," however just, upon the national policy of this war, upon its origin, and its probable motives, and also the strictures upon the manner in which it has been waged by the Administration, in order to present, distinct from any consideration, *the dangers to which our Army in Mexico is now exposed*, and the necessity of prompt and vigorous preparations for *its safety* by those upon whom that duty rests.

EXTRACTS FROM "GERMANICUS."

The victories on the Rio Grande, had peace been the great desideratum, gave to the Cabinet every advantage of position with the country and with the enemy. Were negotiations to be resumed *this was the time*. If the security of Texas was the object, the Mexicans had received a check sufficient to satisfy them that any hope of its recovery must be abandoned. All that remained to be done was the establishment of a marine force and of a few posts to command the entrance to and the transit on that river—concentrating the army at a convenient and healthful station near Matamoros, and such provisions as would secure the prompt assistance of the local militia, if required.

Meanwhile reconnoissances might be kept up, and preparation made for the contingency of a continuation of the war.

But, if the war was to be pushed with vigor, *this was not the time*. The Cabinet declined offers of mediation, and indulged first in display, next in whispered censure. They censured the delay in advancing the army, when they themselves, by precipitating the war in the spring, had the inevitable summer to encounter—a complete barrier to immediate hostile operations.

This, however, gave time for preparation, the necessity of which they scarcely seemed to feel. What were their measures? All the past and recent experience of this and of other nations had shown that a militia force was the least reliable and the most expensive instrument of war. In that of Florida the ratio of expense between a regular soldier and a militia man was as one to six—and of service as an integer to nothing.

To do this two things at least were absolutely necessary—one, to raise the pay of the permanent troops as an inducement to enlist; the other, that the General Government should reserve to itself the organization and officering of the volunteers. To exert this important power it was incumbent on the Cabinet to decide whether a foreign war was to be maintained by an auxiliary militia of the States, or by troops of the United States. They preferred to raise a nondescript body of volunteers, quotaed on the States, officered by the States, and mustered into the service of the United States; in the view of the constitution not militia—in view of all experience not national soldiers. To complete the folly, this war of conquest was to be accomplished by *twelve months'* men! Was it possible to offer Mexico a stronger inducement to prolong the war than such a limitation? Was it possible to devise a plan less likely to furnish an efficient service, or to render that service more oppressive on the Treasury?

As to the efficiency of the service, it is a well known fact that officers in some of the volunteer regiments, educated at West Point, (and there are several of them,) have not dared to introduce the discipline absolutely necessary, not only to the effectiveness of the men, but to their health and safety. Instead of *governing*, they have been obliged to *coax* them—and, as to others, General Taylor has had to combat not merely the enemy, but some of his auxiliaries. "Sir," said one of their chiefs, "the States will not stand the regulars being pushed ahead." "Then," replied the gallant veteran, "they must *lie down* under it, as my men did in the battle of the 8th of May under the fire of the Mexican artillery." Had he been more a politician than a patriot, what would have become of his army?

Behold some of the consequences! We see the regular army advanced far into the enemy's country, actually shorn of at least one-fourth of its strength from the necessity of leaving in garrison at each depot sufficient numbers to guard its stores from the waste of its auxiliaries; and we see, in the recent action at Monterey, these auxiliaries pushing headlong and eager into the fight, but, from want of discipline, broken at the first check.

Suppose a serious reverse to our army, what would become of these undisciplined levies? They would instantly disperse, never to be reassembled. Other consequences will follow.

But not only is this invading army most unwisely constituted, but in the advance and in the support of it there has been the utmost improvidence. Such was the absence of preparation for advancing the troops to Matamoros that the lamented Colonel Cross was obliged to organize nearly all the means of transportation from resources in Texas; country wagons were collected, wild mules were trained by him, and thus insufficiently provided, Gen. Taylor reached Matamoros with not more than two weeks' supplies.

Did the danger to which his army was then exposed teach the Cabinet the necessity of energy and providence? The answer is given in the facts, affirmed with certainty, that the wagon train at Camargo was not increased, but actually diminished below that at Matamoros; that so inadequate was the provision of pack mules that one division of the army could only be moved at a time, the remainder awaiting the return train; and that the officers have been reduced in their clothing to three shirts, two pairs of pantaloons, a single coat, and two pairs of shoes, to march over mountain tracts and barren plains without, unless very recently furnished, any means of supply from the commissariat.

These pack mules are chiefly property of the Mexican muleteers: suppose a retreat, where will they be found?

Nor is this the only privation of the service: unwholesome food is the frequent complaint of men whose pride of profession would, were not the evil intolerable, forbid complaints. Is great mortality a matter of surprise with such a cause acting upon men untaught to take care of themselves, commanded by officers unable to teach them? Let a comparison be instituted between the obituary list of the volunteers and the regulars, and what a result is obtained! We ask the American people whether soldiers so valiant and so uncomplaining are thus to be requited.

Look at another fact: the whole artillery at Monterey consisted of nineteen pieces: sixteen six-pounders, two 24-inch howitzers, and a ten-inch mortar.

True it is, an eighteen-pounder was left at Camargo for the reason that its *carriage was too old for use*; and a battery of twelve-pounders has reached there four weeks *after* the last division of the army had moved, and about a fortnight *after* the late action, in which they might have been so useful in saving the lives of our troops, and in reducing the enemy.

The facts already set forth show some of the difficulties which have impeded the movements of the army; the climate, the composition of the force, and the want of providence and system in the military supplies. As to the latter the Cabinet cannot allege an absence of means. All of money they asked has been granted, and, we have reason to believe, the grant was ample.

The chief deficiences are seen to have been in the means of transportation and in the ordnance. Why these deficiencies? The estimate of the Quartermaster General, submitted to Congress on the 15th of June last, calls specifically for two thousand wagons, costing $240,000; for ten thousand horses and mules for those wagons, costing $750,000; for four thousand mules for packing, costing $160,000; for four hundred yoke of oxen, costing $10,000—nearly twelve hundred thousand dollars.

Surely this estimate was abundant, more than sufficient for the service. How then explain the paucity of the supply? In the advance from Camargo one pack mule was allowed to carry the supplies for seven days of eight soldiers, exclusive of what was needed for water, ordnance, hospital stores, and the supply train. The force moved but little exceeded six thousand men. Thus a train of seven hundred and fifty mules would at least be required for this force: suppose double the number, and how small a proportion does this bear to the total estimate! Yet we have seen Gen. Taylor obliged to move by separate divisions, waiting a return train, exposing the advanced division to an attack, of which there was at one time very serious apprehension.

We have said that the number of pieces of ordnance was nineteen. A recent article of the "Union" boasts the vast amount of ordnance on hand. In addition to these previous accumulations the estimate before referred to asks $600,000 for that branch of the service up to the 30th of June last. How happens it that with so poor a supply this advance so far into the enemy's country is ordered, when the first anticipated resistance was from a capital city, in which every house was a fortress, and which was provided with heavy cannon, ordnance stores, and with every means of armed defence?

The excuse may be offered, "We did not suppose the Mexicans so well provided." Why indulge such a supposition, when we have a published statement before us which shows that, as long ago as 1827, her army embraced thirteen brigades of artillery of the line, having at command for fixed and field purposes seven hundred and sixty-four cannon, of different caliber, three hundred of which were brass, besides thirty-five culverins, seventeen mortars, and ninety-three carronades, with an immense supply of balls, grape, and shells. "But the roads are so difficult." If Mexico could place in Monterey pieces of great weight—Mexico, poor, divided, despised—may we not believe it within the compass of possibility that these United States—this powerful united Republic—could at least have sent forward one or two batteries of twelves, and more than two howitzers, or a single mortar? Every man at all acquainted with arms knows that a six pounder is of little use unless so situated as to be sustained by musketry—and the narrative of the late attack on the 21st shows that the small pieces thus exposed were obliged to be withdrawn.

Who then, we now ask, can doubt that, had our artillery force been of sufficient number and size, of the two hundred lives sacrificed in the repeated charges of that day by the flower of our troops sent to storm stone walls, against which no batteries had played, more than two-thirds might have been saved? New York would not have mourned her gallant MORRIS, Virginia her TERRET, Maryland her WATSON, and others the brave sons of their boast. * * * * * * * *

But we put another question, and it must be answered to the country: Why was the force of General Taylor so small? Suppose, instead of six thousand men, his command had consisted of ten thousand, adequately provided, what would have been more easy for him than to push one-third forward toward Saltillo, taking possession of every pass, thus leaving to Ampudia no alternative but an unconditional surrender, and enabling him to entrench himself there, ten days after, so strongly as to defy attack, if he selected this as a strategic point? The Union tells us that there was on the Rio Grande a reserved force of nine thousand men. We will not question it; but of what use this force, if it could not be moved from deficiency of carriages, and, if moved, insufficiently provided?

Instead of a result so decisive in its influences upon the future, what do we behold? A successful conflict of four days—feats of unsurpassed heroism—awful carnage—and a superior force capitulating on terms which enable it in two months again to take the field. * * * * * * *

In the new-born vigor of the Cabinet they have indeed ordered this armistice to be terminated. We venture to predict that it will not be terminated much before its stipulated term, if the orders to Taylor are discretionary; and, if terminated sooner, that no material benefits will result.

How far this sudden order proceeded from political, apart from military considerations, it may not be well now to declare. One thing, however, is apparent, that certain persons about the Government, influenced by a momentary, mistaken, and ignorant disappointment, were most willing again to cast censure upon the commander of our invading army; that they suddenly held back, and that the safer and more insidious policy was adopted of awarding praise in the "Union," while the subordinate press studiously disseminated distrust—one of them daring to apply to this brave man, whose army was yet smarting under its wounds, the insulting epithet of "*General Delay.*" Yet we are informed by an officer who never exaggerates, writing on the spot, that General Taylor did well to allow the enemy the terms he did, as he thereby accomplished every thing he could have desired, and saved an unnecessary effusion of blood. * * * * *

Thus far we have adverted to the past; we will now close these views with a few observations as to the future.

What was the Cabinet plan of operations? This was formed with reference to two objects—the subjugation of Mexico and the conquest of peace, including a permanent acquisition of territory.

Doubtless, if pressed on that head, the Cabinet will disavow the first as their object. Yet, if the language of their official organ is to be regarded, some such idle dream was indulged.

Now we are informed that peace is their desire, with indemnification in territory for the injuries to our citizens and for the expenses of the war.

As respects the mere acquisition of territory, we are told the war has been successful. Is this the fact? Have we as yet done more than establish in remote regions of Mexico, where no resistance was to be expected, mere military detachments—sufficient to hold those regions while Mexico is occupied with a central war—wholly insufficient should that war flag, and her Government become settled? In such an event will those territories have been gained? But the Cabinet declare that they mean to conquer peace; which peace shall include a surrender of the whole or part of the country we occupy.

How near, we ask, have we approached such a result? Looking beyond the smoke and flush of victory at *realities*, what are the facts? Three bloody battles have been fought. In each Mexico has been defeated, and with the loss of three thousand men. Will this give us peace and boundless possessions?

Is there any thing in the tone of Mexico which indicates a readiness to submit to such terms of peace? That the men of property desire peace, that the more considerate men desire peace, may well be presumed; but they desire a peace which will secure the future, not a peace whose terms will lop off one-third of her domain, will yield up her western coast, and will establish securely, within striking distance, a foe whose means of offence will increase as her means of defence decrease, and who, looking down upon her rich valleys from the summits of the Sierra Madre, only asks a breathing spell to renew a war of more extended and permanent conquest. Can any man believe that Mexico desires, or is prepared for, such a peace as the war *now is!* Can any man believe it, who is aware that never was there a greater delusion in the public mind than the prevalent supposition that Mexico has always been afraid to go to war, or doubted her ability to maintain it? One of our most distinguished public men—a man of rare sagacity in estimating the character and dispositions of men and nations, and intimately familiar with our foreign relations—observes: "There is no nation which has a higher conceit of its own power or prowess, or is more ready to take up arms, regardless of consequences." He might have added that, true to their Spanish origin, no nation holds her domain, however valueless in itself, more sacred, more an object of national pride.

A peace including in its terms large and valuable acquisitions must be conquered. Let us consider the mode in which this is attempted.

It is an admitted fact that few countries are less accessible, less vulnerable, more easily defended than Mexico, whether we regard the climate, natural obstacles, or the character and habits of its people.

During one-third of the year, as we have seen, on its northern limits, torrid heats and incessant rains oppress human life. On its Atlantic frontier, a *tierra caliente*, infested two-thirds of the year by a fever deadly to all but natives. In the winter, winds called northers torment its coast, and almost forbid approach; few harbors, and most of these impracticable to vessels of heavy burden. Its interior, ridged by lofty mountains, passing through every degree of its latitude, and dividing impenetrably except by two difficult passes—Saltillo and Jalapa—its respective table lands, much of these spread out in extensive barren plains—occupied by a hardy people, inured to privations—of the simplest habits—irregular industry, accustomed to provide only for the day—with few ideas—these the offspring of bigotry, ignorance, and pride—a vain, jealous commixture of heterogeneous races, but united in one overruling sympathy, a hatred of foreign domination. Of six hundred and fifty-two elective appointments to their Legislature, not one was conferred on a native of Europe.

To conquer such a people, so situated, may be termed a bold undertaking, yet doubtless to be accomplished with the necessary expenditure of lives and money. But to take possession of remote frontiers, to issue proclamations, and to win a few indecisive battles—this is *not* conquest. How has this been attempted?

By selecting, as a base line, the Rio Grande from its mouth to Camargo, and thence piercing interior mountain passes, to be stained with the blood of our friends—a distance of four hundred miles—before the outer skin of the heart of Mexico is reached, planting *depots* on the route to be garrisoned by faithful soldiers. If this was to be the road to peace, how utterly misconceived the route, and how inadequate the means! The base line requires for its protection a force of five thousand men; the several *depots* on the route ought not to be more than thirty miles apart, that each may sustain the other, and each lesser *depot* ought to be protected by at least three hundred men, while to hold Monterey, Saltillo, and the several other smaller towns intermediate to Potosi, not less than three thousand men would be a wholly prudent estimate. If so, these precautionary provisions ask an addition of five thousand men; thus demanding at least ten thousand to secure the transmission of the necessary supplies, and to maintain the garrisons. This estimate may appear large—perhaps it is so; but it must not be forgotten that on the whole route between Camargo and Potosi no mass of provisions is to be found.

The active force under Gen. Taylor, now at Monterey, we will assume to be ten thousand men. If the enemy are in condition to resist, more than two thousand must be subtracted before he leaves Saltillo. Allowing for casualties and *depots*, his force must be reduced to less than seven thousand efficient men before he reaches Potosi; for it will be recollected that the advance must be slow—the country is steril, part of it *without water*; and from Vanegas onward to Catorce of extreme difficulty—in midday excessively hot, at night severely cold—a various temperature most trying to men already enfeebled by the heats they have suffered—many of them with seeds of fever in their blood, ill provided as to supplies, limited in clothing. It is supposed this army of seven thousand men have Potosi before it, what then its situation? It is in the midst of a state of two hundred and fifty thousand souls, of whom more than fifty thousand are concentrated within a circle of six leagues, in the immediate vicinity of its capital, occupied by industrious artisans fighting for their firesides and their altars; having an army of not less than twenty thousand men in its front, and exposed to be cut off in the rear by the numerous population of Zacatecas.

But this army is to be reinforced from Tampico. Have the Cabinet studied this route? Have they considered well its difficulties—its bar, excluding vessels of over twelve feet draught, the contested landing, the climate, the approach to Altamira, the many winding paths beyond—a country "precipitous," without supplies, in part of which there "are no running streams but distant tanks and wells"—the distance nearly two hundred miles, requiring twenty days at least to make its way if unobstructed by adverse arms. Will these respective armies meet simultaneously? If the smaller is foremost may it not fall? If the larger is in advance it is exposed without aid; yet this reinforcement, not yet organized, is the best trump in the hand of the War Minister—a reinforcement to be composed of one-fourth regulars, three-fourths volunteers, to be commanded in this dangerous route through an enemy's country by a volunteer General, perhaps a Governor of a State, *not*, unless recently, *mustered into the service*; for such an anomaly has existed, perhaps exists.

Meanwhile where are the residue of the troops? General Kearney at Santa Fé, military Governor of a part of the State of Texas, waiting supplies. General Wool preparing to advance to Chihuahua over four hundred intervening miles—to do what? To make a *diversion* in favor of Kearney—or, after a further march of more than three hundred miles, to eat, and with a sharpened appetite I trow, a Christmas dinner with General Taylor. It is said his destination is changed—I hope so. For of all the plans devised, this expedition to Chihuahua is the most incomprehensible.

But let us suppose all to happen well—these united forces assembled, and another bloody victory gained, over the consolidated strength of our adversary—can we advance further? for they all must eat. How far? To the labyrinth of Guanajuato, one hundred and twenty miles of steeps or deep defiles, whose towns contain seventy thousand people; to Queretaro, more than one hundred miles beyond, over rugged crests and dark ravines, whose capital contains 40,000 people, distant from Mexico a similar distance, through hostile hills and swarming with guerillas. Mexico at last is reached; is won, *perhaps*. The torn and bloody flag of victory floats over its palaces. What then? Are the people conquered? Or, dispersed in remote fastnesses, are they waiting the moment when the term of the volunteers having expired, victor war-worn regulars are left to crave permission to capitulate?

Is this a necessary result of the war? Far from it. But were our arms to reach thus far, it would be the necessary result of the policy—*not of the army*. For we affirm that the clear and deliberately formed opinion of General Taylor is against this expedition; this enormous journey. We affirm it now, before disaster comes, that if it comes the army be not responsible. Until the recent orders arrived, their almost universal belief was that the war was about to terminate. What they will think when called upon to encounter such unnecessary perils may be imagined; still, *they will do their duty*.

What, finally, we ask, must be done? The answer is twofold, and it is obvious. The Cabinet and the country must begin to feel a sense of moderation. The husbandman, the artisan, the villager, the citizen, must reflect and speak—the press, with its many voices, must speak—and they must speak the language of peace—of an honorable and an early peace, to be concluded on terms befitting a powerful republic contending with a weak one.

Meanwhile real energy must be exerted; ample military provision made, equal to the great emergency. The army must be increased to more than double its present authorized number, to serve until three months after the war. Higher pay must be voted—twelve dollars per month; a cheap increase of a million and a half per year. If necessary, bounties must be offered, benefactions granted. Every officer who has been in active service must be promoted. The war must be waged on a large scale, and firmly and for practicable objects. The whole idea of advancing beyond Monterey, or Saltillo, if taken, must be abandoned. These fully garrisoned, the Cabinet, by holding them as keys to the upper country, may yet present to the nation a reasonable plan.

The regulars must then be withdrawn, and, due provision being made, Vera Cruz must be taken, and it easily can be taken landwise after a short siege, if pieces of sufficient caliber are provided; St. Juan d'Ulua must then fall under our fire from the commanding elevations, or must surrender for want of bread; and if peace is not sooner concluded, the great battle must be fought at the threshold of the capital. A war so conducted will become our place among the nations; a smaller war will be degrading. At each advance the olive branch must be held forth, but with a martial hand. All that the wealth and power of twenty millions of freemen can do, must be done; for by no chance must the honor of this rising empire be sullied. If Roman counsels are compelled by the obstinacy of our adversary, let the policy of Rome govern, when she sent forth her legions.

But to do this the Government must be impelled, directed, controlled—the army enlarged, fostered, rewarded.

A valuable bed of iron ore has been discovered in Dodge county, Wisconsin. When analyzed it was found to yield ninety per cent. The deposite in the mine is said to be about thirty feet thick. Its length and breadth has not been ascertained.

THE ILLINOIS AND MICHIGAN CANAL.

Those who are interested in the progress of this Canal will be gratified to learn that, notwithstanding the partial interruption of the work, in consequence of the sickness which has prevailed during the past season among the laborers and engineers, it is likely to be completed within the period named, on the revival of the enterprise upon its present footing. It is likely also to be completed at a cost within the estimates on which the new arrangement was based, and the amount which has been obtained by loan, and placed in the hands of trustees for the purpose.

TO THE EDITOR OF THE BOSTON DAILY ADVERTISER.

Some erroneous statements having appeared of late in the newspapers in reference to the Illinois and Michigan Canal, and the arrangements which have been made for the supply of water for the summit level, you will confer a favor on your correspondent by inserting the following note in the Advertiser.

In the original plan of the work, the summit level of the canal was intended to be supplied with water by means of a thorough cut from Lake Michigan to the main Eastern branch of the Illinois river, (Des Plaines,) a distance of about 30 miles. Although the depth of the cut did not at any point exceed 20 feet, still for a great portion of the distance, the sub-stratum was composed of an exceedingly hard material, known as cemented clay, cemented gravel, &c., and for the distance of about seven miles the entire cut was through a magnesian limestone, ranging in depth from 14 to 18 feet. An idea may be conveyed of the formidable character of this thorough cut when it is stated that the entire canal, of 100 miles in length, with its 15 locks, overcoming some 140 feet of lockage, together with all the other accessory works, was, by the estimates of 1836, to cost 8,650,000 dollars, while the summit level, or thorough cut, alone was to cost nearly $6,000,000.

When the State of Illinois, in 1843, found itself unable, for the want of means, to complete the canal, upon which about $5,000,000 had then been expended, a modification of the original plan was proposed, by which it was made to appear that some $850,000 dollars might be saved in the cost of construction, thereby reducing the cost of completing the work, according to carefully revised estimates, to a sum less than $1,600,000.

It was at this period that the holders of canal bonds and other evidences of indebtedness of the State, both in Europe and in this country, were invited to make a loan to the State of $1,600,000 to complete the canal, and, as security for the payment of this loan, the State offered to convey the canal, its lands, (some 230,000 acres,) and other property, to three trustees, two to be appointed by the subscribers to the loan, and one by the State.

The proposed modification of the original plan consisted in this: to abandon the thorough cut, in which there remained to be excavated some 2,360,000 cubic yards of cemented clay, or hard-pan, and about 450,000 cubic yards of rock; to raise the entire summit level eight feet, or one lock in height, and thereby avoid about 2,000,000 cubic yards of the cemented clay and 300,000 cubic yards of rock; to conduct the waters of the Des Plaines, the Calumet, and the Du Page to the summit level, thus deriving the supply of water from the adjacent streams, and abandoning the plan of drawing it from the lake. This, by the estimates, was to be effected at a cost of about $1,500,000, thereby saving some $850,000 in the cost of construction.

At the request of the European bondholders, to whom application had been made for a loan by the State of Illinois to complete the canal upon the *modified plan*, the Hon. John Davis and Captain W. H. Swift, of the army, visited Illinois and examined the canal, the plans, estimates, &c. in 1843, and in March, 1844. These gentlemen, after having spent several weeks in their examinations, made a very full report to the agents of the bondholders in Europe (Messrs. Baring, Brothers & Co. and Messrs. Magniac, Jardine & Co.) In this report, among other conclusions at which they had arrived, they stated the opinion that the canal could be completed according to the plan proposed by the State of Illinois for the sum named to the bondholders, to wit: $1,600,000, and that the work could be accomplished within a period of three years.

They further stated that they considered it necessary for a maximum trade upon the canal that a greater supply of water for the summit level should be introduced than that which the State had deemed adequate: to effect this object they stated that the sum of $1,800,000 would, in their opinion, be necessary. In this case, they contemplated uniting the waters of the Fox river to those of the Du Page, and to lead the combined streams upon the summit.

During the spring of 1845 the negotiations which resulted in the loan of $1,600,000 were completed. In May and June the trustees were elected, and the board was fully organized; engineers were appointed, and contracts for a large portion of the work made prior to 20th July of the same year.

Subsequently, further examinations and more minute surveys were made, with the object of ascertaining the minimum cost of leading the waters of the Fox river across the summit. The results did not differ essentially from those which were furnished by the less detailed surveys made in 1843 at the suggestion of Governor Davis and Captain Swift, to wit, some $350,000.

It was known, by repeated measurements made of the Calumet, Des Plaines, and Du Page rivers at their lowest stages, that they would afford an ample supply of water for a maximum trade, excepting the dry season of the year, embracing ordinarily a period of three or four months. The question which then presented itself for consideration was this: Whether it would be better to conduct the additional quantity of water which the canal would require for these three or four months from the Fox river, at an expense of $350,000, or to elevate the same quantity by a pumping engine from the lake. In the first case, the construction of about thirty-four miles of navigable feeder, with nearly forty feet of lockage, would be necessary; in the second case, a steam engine of sufficient capacity to raise six thousand cubic feet of water eight feet high per minute would be required. The cost of the feeder, land damages, water rights, repairs and superintendence, and interest upon the original outlay being presented, on one hand, while on the other was to be embraced the cost of two engines, each capable of pumping the water required, buildings, expense of running one engine four months, repairs, and interest upon the outlay of engines, pumps, and buildings. It is to be stated, however, that an abundance of coal is found in the lower districts through which the canal passes, and on the Illinois river, so near, in short, that it can be delivered at the engines at a cost of two cents per bushel, or less.

The general results proved that while the annual expenses, including interest on the original outlay in both cases, would, for the feeder, amount to about $28,000; the expenses for the engines would not exceed $13,000 per annum.

Pumping engines have accordingly been contracted for, two being considered necessary, although but one will be required to be at work ordinarily. One of the engines is intended to work four cylinder-lifting pumps, of fifty-four inches diameter, and to the other it is designed to apply a wheel of twenty-four feet diameter, working in a pit of masonry nearly water tight, the water being raised by the float-boards in a manner similar to the wheels used in draining the fens in Lincolnshire, England, the lift in both cases being about the same.

In the Civil Engineer and Architect's Journal, volume 1, will be found a report by Joseph Glynn, C. E., upon the performance of several of these wheels. At Pode Hole, from 1830 to 1835, inclusive, a wheel, working about four months in each year, the quantity of water raised 7½ feet, amounted to 4,638 cubit feet per minute, and this was for a period of eight hundred and sixty-eight days, (of twelve hours each,) or the whole time that the engine was at work. The engine was of eighty horse-power, and consumed about ten pounds Newcastle coal per horse-power for each hour it was in operation.

The work upon the canal has been advancing steadily since the contracts were entered into, say August, 1845; and, although the unusually sickly seasons of both 1845 and 1846, in Illinois, have interfered seriously with the prosecution of the work, still it is confidently expected and intended that the canal shall be completed within two years and a half from the time at which operations were resumed, say in all the next year, (1847.)

It will be perceived by the preceding statement that the plan of the canal and the feeders is substantially that upon which the State proposed to the bondholders to construct it. The trustees have *added* pumping engines for an increased supply of water. Should the State, at any future day, desire to carry out the original project of the "thorough cut," the steam-engines can readily be converted into flour mills, and be disposed of to individuals without sensible loss.

OCTOBER 22, 1846. S.

EFFECTS OF THE VETO.—We are daily experiencing the evil effects of Mr. Polk's veto. The sand is blocking up not only the small but the principal Lake harbors. Our own harbor, if not improved by next May, will probably not admit of the entrance of a keel vessel, even of a light draught of water. And all the vessels that winter here will most likely be unable to effect a passage across the bar which will be formed by this season's storms. The like misfortune threatens other Lake ports. At Cleveland, vessels are grounding daily; coming in contact with the piers, &c., thereby suffering much damage. At Milwaukie large vessels are unable to pass the bar in heavy weather. At Buffalo, it is feared, the winter will see much damage to the works erected there to protect the shipping. At Michigan City the farmers are taxed two cents a bushel on all the wheat stored there, in order to make the harbor at all subserve the purpose which a harbor should. At Southport, Racine, and other lake ports, the same causes will produce similar effects.

Yesterday the steamer Niagara was an hour and a half working her way from Bristol & Porter's wharf into the lake, and part of the time in danger of being seriously damaged. It was a sight for a "Polk, Dallas, and Texas" man to see the steamboat ploughing her way through the sand, which threatens to cause the grass to grow in our streets if means be not taken to clear the harbor.—*Chicago Journal.*

"JACK HAYS AND HIS MEN."

Since the opening of the campaign, the regiment of Texas Rangers under the command of Col. J. C. Hays, of San Antonio de Bexar, Texas, have been gradually earning a high place not only in the estimation of Gen. Taylor's army, as appears from numerous letters from the camp, but in the hearts of the people of the United States, until their exploits at the battle of Monterey have created a perfect enthusiasm in the popular mind to know who and what this famous "Jack Hays and his men" really are. In reply to our inquiries, a friend from western Texas presents us with the following sketch.—*Union.*

John C. Hays, a native of Middle Tennessee, came to Texas early in the year 1839, I believe, and, settling at San Antonio, commenced business as a land locator and surveyor. This calling was then exceedingly dangerous, for it was rare indeed that a surveying party went beyond the settlements without a rencontre with either Mexicans, Camanches, Beediis, Wacoes, Towackanies, Keechies, or straggling bands of some other hostile tribe infesting the western frontier of Texas. In these encounters, Hays, though hardly a man in age, soon obtained a reputation for coolness, judgment, courage, energy, and a knowledge of frontier life and Indian and Mexican character, which induced the Government of Texas to tender to him the command of its first company of rangers, which was organized in the winter of 1840 and '41. Some time afterwards, when it was found necessary to raise two more ranging companies, Capt. Hays was invested with the command of the battalion, with the rank of major, and he and "his men" continued to serve as rangers until the annexation. He is not more than 30 years of age, (if so old,) and weighs from 130 to 140 pounds. I need say nothing to you concerning his remarkable soldierly qualities, for the pens and voices of such men as Balie Peyton and Gen. Worth have already told the world that it holds few such warriors as Jack Hays.

In western Texas, where from habit all men are good Indian and Mexican fighters, modesty is his most remarkable trait; for it is no uncommon thing to hear an over-modest man characterized as being almost as bashful as Jack Hays. Indeed, I question whether there is a man in Taylor's army who has as poor an opinion of the merits and services of H. as he himself. He thinks much and speaks little, and that little always to the purpose. There never lived a commander more idolized by his men, for his word is their law. Now, as they are regular frontier men, and, of course, notoriously restless under any other restraint, his perfect control of them attracted much curiosity and many inquiries in Texas before its annexation. Their experience with him as a soldier has given him their confidence; but his rigid and exact justice to them, his habits of living and faring as roughly as any private in the regiment when on duty, and of treating each comrade in arms as in all respects his equal when not on duty, are probably the reason why the boys, one and all, are so willing, without a murmur, to live on parched corn, ride seventy or eighty miles without dismounting for five minutes at a time, or to fight Mexicans with pick-axes, when Hays deems either necessary.

His men, who, in the estimation of Gen. Worth, are the best light troops in the world, are just the men to be led by such an officer. Out of the four hundred, I presume at least three hundred and fifty are farmers and stock raisers in a small way on the Colorado, Navidad, Lavacca, Guadaloupe, and San Antonio rivers, in western Texas.

From the time of the battle of San Jacinto up to forty-one, when formed into regular ranging companies, they defended the frontier on their own hook, without pay, emolument, provision, or even ammunition at the expense of the Government. Whenever Indians or Mexicans approached the settlements runners were dispatched up and down the rivers I have before named to sound the alarm, and on such notice those now composing Hays's "first regiment of Texas Rangers" rarely required more than six hours to prepare for a campaign of three months; for, after all, catching their horses, running fifty bullets, and parching and grinding a half bushel of corn for cold flour, or *panoli*, as the Mexicans term it, were the only preparations necessary. Hot or cold, wet or dry, they carried no tents, and required no other provisions than fresh beef, which was usually driven with them. Once in a while a green horn, on his first campaign, would pack a little sugar, coffee, and salt; but he would soon learn that boys who had to fight for nothing and find their own horse flesh and ammunition, could do it about as well on "*carni*" solus. In fact, after a little experience with such a life, few at least of those men would be troubled with the care of any other provision than beef, or with any other equipment than shooting irons, bowie knife, a pair of blankets, a Mexican saddle-tree, and a good horse; which, with leather breeches, indomitable perseverance, an extra shirt, a light heart, great capacity for endurance, and sworn hatred to Mexicans and Indians, make up the Texan ranger.

When the Government of Texas organized these men into regular companies, they first began to receive pay, and perhaps half of those now with Hays gave up their farms and took to soldiering for a livelihood.

Capt. Ben. McCulloch, who commands the first company of this regiment, (to which Kendall, of the Picayune, is attached;) G. T. Howard, who was lately dispatched to Santa Fe by the President, and has since joined Wool's force, to which he will soon be what McCulloch is to the main army; poor Gillespie, who was killed in the late battle, and Hancock Chevallie, originally of Richmond, Virginia, were Hays's right hand men in the frontier campaigns of Texas. McCulloch is a native of Tennessee, near the Alabama line, and came to Texas from the latter State, settling in Gonzales county, as a surveyor. He served one of the two field pieces in the battle of San Jacinto, "the twin sisters," as the Texans dubbed them, and there, for the first time, distinguished himself. He is the hero of what is known as the Plum creek fight with the Indians who burnt Linnville. Howard is a native of this city, and commanded in the famous court-house fight in the town of San Antonio, when he found it necessary to close the door, and, with nineteen men, to fight thirty-seven Camanches, both parties being completely armed. In this melée, he himself received four wounds, and lost nine men killed, all the rest of the command being more or less wounded. But seven of the Indians got out of the room alive; and of these, six were subsequently killed in the street. Gillespie is either a native of Virginia or Tennessee; and being the lieutenant of the first company of rangers, was chosen its captain when Hays was promoted to the command of the original battalion. Indeed, all these gentlemen are distinguished frontier officers, having long since won their way to fame in Texas, in, I may almost write, a hundred well-fought battles. S. H. Walker, *the* Captain Walker of the beginning of this campaign, who, by-the-by, is from this city also, is now the lieutenant colonel of the regiment, having fairly earned his election in the events of the month prior to the battles of the 8th and 9th of May last. Ever since the organization of the ranging corps he has been one of their number; though, heretofore, I do not know that he was distinguished beyond his comrades generally. Before the annexation of Texas an election for a lieutenant of the 1st company (Gillespie's) took place, and Edward Ratcliffe, a brother of Daniel Ratcliffe, Esq. of this city, was chosen, Walker being his competitor. Ratcliffe, poor fellow, was killed in the little fight between nine men, under Walker, and a party of Mexicans, which took place a few days prior to the battle of the 8th of May.

But when I think of these men facts crowd so fast on my memory that I might write you about them until daybreak. A personal knowledge of at least three-fourths of the men of the regiment teaches me that Col. Balie Peyton has not praised them beyond their true deserts in saying that "amongst the volunteers none have shone more conspicuously than the 1st Regiment of Texas mounted riflemen, commanded by that Chevalier Bayard, Col. J. C. Hays, better known as Jack Hays. This corps, from the Colonel to the private, has fully sustained its former reputation. In the first affair in which Gen. Worth's division was engaged on the morning of the 21st, Col. Hays, with several companies of his mounted riflemen, were thrown forward to open the ball, which he did most beautifully, encountering and shooting in the presence of the General the Colonel of dragoons who commanded the enemy's forces. In scaling heights, storming batteries, and clambering over walls and house tops, the voice of the gallant Colonel and the reports of the unerring rifle of the Ranger were ever heard in the van. The courage and constancy and subordination of this corps is the theme of admiration in the army."

PROPOSALS FOR UNITED STATES LOAN.

TREASURY DEPARTMENT, OCTOBER 30, 1846.

AN ACT having been passed by Congress and approved by the President of the United States on the 22d July, 1846, entitled "An act authorizing an issue of Treasury notes and a loan," the undersigned, Secretary of the Treasury, will, in pursuance of the provisions of said act, receive proposals at the Treasury until the 12th of November, 1846, inclusive, for the subscription of a loan of five millions of dollars, on a stock bearing an interest of six per cent. per annum, payable semi-annually. The proposals will state the price to paid for said stock. The money loaned to be placed to the credit of the Treasurer of the United States, with him or with either of the Assistant Treasurers at Boston, New York, or Charleston, or the Treasurer of the Mint at Philadelphia or New Orleans. Stock will be inscribed on the books of the Department, and certificates issued for the sums thus agreed for, on evidence of the deposite of the money as provided above, bearing interest from the date of the deposite, and irredeemable before the 12th of November, 1856. The proposals will state where the money will be deposited, and should be directed in letters, under seal, to the Secretary of the Treasury, endorsed, "Proposals for the United States loan." No offer for any sum under one thousand dollars will be considered.

R. J. WALKER,
nov 2—dt12N Secretary of the Treasury.

The Intelligencer, Washington; Baltimore Republican and Argus; Keystone and Pennsylvanian, Philadelphia; Globe and Evening Post, New York; Boston Post, Boston Times, and Charleston Courier will please copy the above.

1,000 REAMS PRINTING PAPER, 24 by 38, made from foreign rags, on consignment, and from one of the best manufacturers in the country, will be sold for cash at the very low price of $3 25 per ream.

R. FARNHAM,
sept 11—6tif Corner of 11th street and Penn. avenue.

SCIENCE AND AGRICULTURE.

FROM THE NEW YORK JOURNAL OF COMMERCE.

Farming, like all other things, and perhaps more than other things, is in a revolution. We once knew as much about growing corn, potatoes, and grass as our farming neighbors; but we have glanced at enough of the science in its modern improvements to feel that all we knew is of very little worth, and that, in attempting to write about farming now, we are more likely to get laughed at than admired. But no matter. Farming has become a science. If a farmer wishes to grow wheat on his land, he sends wheat to a chemist to be analyzed, that he may find of what it is composed, or rather looks into some modern work on chemistry, and reads it there. He then sends a sample of earth from his lot to the chemist, to ascertain of what ingredients the soil is composed; and whatever of the component parts suited for wheat is not found in it, he procures and spreads upon his land. A field may have in abundance all the ingredients for the production of wheat but one, and yet not be able to produce wheat. By science, the Grahams have discovered the appalling fact that butter and beef are in the grass and the fruits; that the cow is only the manufacturer; and that they, like the transmuting priest, abjure butter and beef, and yet eat butter and beef all the while. The farmer who has no science will, perhaps, at great cost, add those ingredients of which there are already enough. But that will not cause a crop to grow. This accounts for the fact which is often so surprising, that manure which has produced great crops on one soil has no good effect at all on another. A scientific farmer knows little of *poor* land. All land is good to him, for it will produce well if only furnished with the proper ingredients. So land that would only produce a very poor crop has been made to produce a very large crop by spreading upon it one or two deficient ingredients. These ingredients are, some of them, to be found in almost all substances—lime of oyster shells, ashes even of anthracite coal, charcoal dust, fish-bones, &c. Every thing is composed of ingredients which must be had for the reproduction of itself, and many other things. Fruit trees cease to bear often because they have exhausted the soil of one or two of the ingredients which compose their fruit. Give them but these, and they will at once return to production. A pear *tree* may grow in a soil which has not all the qualities necessary to constitute pears, and it can no more make pears without the necessary ingredients than the Israelites could make bricks without straw. One crop exhausts one set of ingredients, and another to some extent a different set; and so farmers learn the fact, without knowing the cause, perhaps, that the same crop should not be grown for successive years on the same land. Yet there is no difficulty in growing the same crop interminably, if only the exhausted ingredients are supplied.

A great deal has been learned about the mode and time of cutting and curing hay and grain. Grass, which, while lying out to be thoroughly dried, perhaps may get repeatedly wet, makes much better hay if with much less drying it is preserved with a bushel of salt to a ton. Salt is often cheaper than hay, so that the farmer makes a profit by putting it in, while the labor of curing is much diminished, and the good qualities of the hay much increased. Wheat cut in the milk has been found to weigh six or eight pounds a bushel more than when left to ripen to the usual time, and oats were still more increased in weight. So farmers have, perhaps, been suffering great loss for ages by cutting their grain at too late a stage of its progress.

The application of science to agriculture has developed wonders in the capabilities of the ground, which have lain from the creation unobserved. Men are astonished when they see what boundless blessings the Creator has spread thick around, and how slow the race has been in observing them. They have spent century after century in shedding each other's blood, in creating and spreading poisonous superstitions, and in every possible way destroying all that was good. Despising the blessings of creation and Providence, they have sought their happiness in the employments of fiends, and if the malice of men could but have had its way the race would long since have been extinct, and the earth would have rolled on to the end of its course, its treasures unexplored and useless. Science shows us that the capacities of the earth have hardly begun to be developed, and the human family hardly begun to exist, either in numbers or individual enjoyment. Evidently no sort of conception has been formed in the minds of more than a very few of the swarming millions which this earth is capable of sustaining in luxurious plenty. Land and labor have been brought so ignorantly together that nothing almost has been the product. The meager stinted crops which have so poorly repaid the labors of the farmer, have exhibited the measure of man's ignorance rather than of earth's barrenness. We are opening now upon an era when every field will be a scientific laboratory, most interesting in its operations to every noble feeling. The change will operate to compensate the farmers near the great markets for the competition they endure from the cheapness of Western land. In proportion as the quantity of crops is increased, the value of proximity to market is increased. If the crop of wheat were doubled per acre, the expense of transportation per acre would be doubled, and this would go to enhance the value of land near to market to the amount of the capital upon which this saving would pay the interest. But when we come to fruits and vegetables, which decay rapidly, or are injured by much travelling, or are of great bulk compared with their value, then we have another element of value for land near to markets.

We are indebted for most of these suggestions to Mr. Pell, whose fruits, vegetables, and grains attracted much attention at the late Fair. We do not, however, mean to make Mr. Pell responsible for any blunders which we have committed in repeating from memory a little outline of the very interesting conversation of half an hour which we had with him. We do not suppose that these things are as new or interesting to every body as they were to us; but they will, perhaps, set some of our readers upon a track which will bring them to more thorough and exact information.

COMMODORE DECATUR'S TOAST.

FROM THE NORFOLK HERALD.

Seeing in a Philadelphia paper, in connexion with a description of the ceremonies at his reinterment, a toast ascribed to Commodore DECATUR different from the words in which it was given, it may not be impertinent to state that the toast was drunk at a dinner given to the Commodore by the citizens of Norfolk in April, 1816, on his return from the Mediterranean, after "conquering peace" with Algiers, and was in these words, as printed in the Herald of April 5, 1816:

"By Commodore DECATUR: *Our Country*—In her intercourse with foreign nations may she always be in the right; and always successful, *right* or *wrong*."

ST. LOUIS, (MO.) OCTOBER 29.

EXTENSIVE MAIL ROBBERY.—It has been known in this city for some days that an extensive robbery had been committed, but it was deemed expedient to keep the matter quiet for a time. Such necessity no longer exists, and we may therefore state that the mail robbed was made up here on the first of this month for all the Eastern cities. It has been ascertained that the mail for New York never reached its destination, and it is supposed that this was the fate of the others. The extent of the robbery is not known, but we understand that L. A. Benoist & Co. mailed on that day to New York from $1,300 to $1,400 in bank notes and $5,000 in drafts; J. J. Anderson & Co. $800 to Pittsburg and $300 to New York, all in bank notes; Preseury & Co. $600 in bank notes to New York; and other brokers, it is believed, also made remittances. The presumption is, that the robbery was committed this side of Wheeling, for had the mail reached there the Pittsburg letters would then have gone safe to their destination. No information has yet, so far as we can learn, been obtained by which to trace the robbery to any particular point or individual.—*Republican.*

DISTRESSED VOLUNTEERS.—We have heard repeated complaints of the treatment received by some hundred and twenty volunteers lately landed in our city. It appears they were discharged from the army because of their ill health, and some forty days since embarked for this place on a vessel too small to carry so large a number of sick persons. They were thirty-five days in making the passage, and they must have suffered beyond description. Eleven of their number died on the passage, and they died, if our informant speaks the truth, in actual want of the most common necessaries of life. Many that lived to arrive here are barely alive, and are now in such a state as to be perfectly helpless. Humanity requires that something be done to alleviate their sufferings.—*New Orleans Tropic.*

LOVE RHYMES.—It is singular how much amatory poetry is written before marriage, and how little after it. One may have but little of "the vision and the faculty divine," but on falling in love he finds that he is not without the "accomplishment of verse." This lets us into the secret why there are so many unsuccessful wooers. "Sir," said a lady to a gentleman who had addressed to her a copy of verses, and who afterwards solicited the honor of her hand, "Sir, I admire your person and esteem your character; your manners are pleasing and your disposition engaging; but—but *your poetry is execrable*. I could never love a writer of such verses."

A BEAUTIFUL SIGHT.—The steamer *Old Hickory*, on her passage up from New Orleans, met, on the morning of the 26th ultimo, near island twenty-one, a short distance below the mouth of the Ohio, twenty-two steamboats, all within sight of each other, and all bound to the great Southern depot with heavy cargoes of Western produce. Eight were from St. Louis and the remainder from the Ohio. From New Orleans to St. Louis she met ninety-seven steamers, thirty-five of which were from the port of St. Louis.